EXHIBIT IN HONOR OF GEORGE SARTON

DISPLAYED DURING DECEMBER 1952 AT THE

ARMED FORCES MEDICAL LIBRARY

WASHINGTON, D. C.

The exhibit in honor of Dr. George Sarton has been arranged with two purposes in mind. The first is to signalize his massive contribution, as author and as editor, to the field of the history of science. The second is to illustrate significant points in his career by means of passages from his articles and papers. The first purpose has been realized. In the large upright case is a copy of each of his major and most of his minor books, though limitations of space have made it impossible to open more than two or three of these for display.

The second purpose is only partly realized. In the two flat-topped cases there is the merest selection from his magazine articles and other occasional papers published from 1913 to 1952. Miss Frances Siegel, who was his secretary for many years, kept in the offices at the Widener Library a numbered record of his publications, listing separately each book, each article, each signed contribution to Isis or Osiris and each separate issue of the Critical Bibliography. The number has now passed 400. Obviously, from such a flood of publications, the exhibit could select relatively few, and some of those were probably chosen as much for their ready availability as for their content.

SCIENTIST OR LITTERATEUR?

For the first six or seven years of his adult life, from about 1905 to 1911, there seems to have been some doubt as to whether George Sarton would pursue a scientific career, a literary career, or a combination of both. This period is illustrated by books displayed on the top shelf of the upright case.

At the age of 21 he published a whimsical work, a supposed autobiography, describing not merely the author's life but also his death, burial, and funeral oration.[1] On the reverse of the title-page is a note headed, "Du même auteur," mentioning his Songerie N° VII, notamment sur la Bonheur et sur la Gloire as already out of print, but announcing a novel called Petite Amie for probable

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[1] Une Vie de poète (Gand: Vandeweghe, 1905; 30 pages).

publication the next summer, and expressing hope of issuing still further works to which it would as yet be rash to give titles. Is this all serious or spoofing? Had there been a publication, already out of print, of his Daydream No. 7? If so, what of Daydreams 1-6? Until verified, this gay note headed "Du même auteur" remains of uncertain meaning. It is well to remember that it is by the same humorist who took one of his earlier articles from the 1920 volume of Isis, republished it in a later book, and solemnly stated in the preface: "I am grateful to the editor of Isis for having kindly permitted me to reprint it."[2]

His literary activity did not prevent him from pursuing scientific studies for several years. On display is a bound volume made up of two laboratory notebooks on chemistry which he kept at Ghent during 1906 and 1907. In 1908, for a chemical study of an example of negative autocatalysis in a heterogeneous system, preceded by a theoretical study of catalysis, autocatalysis and negative catalysis, he received a gold medal offered by four Belgian universities and a silver laurel branch from the City of Ghent. This prize essay is displayed in the exhibit in manuscript.[3]

In September of 1907 he finished writing a novel, a paper-backed work issued in 1909 under the pseudonym of Dominique de Bray.[4] The copy on display is uncut, which interferes with consecutive reading, but the dedication can be discerned. This first--and possibly last--novel is dedicated to two persons: to the French novelist, Romain Rolland, and to Mabel Elwes. The latter was the daughter of an English civil and mining engineer.

Two years later George Sarton received the degree of doctor of science in mathematics, specifically in celestial mechanics, from the University of Ghent. On display is a manuscript copy of his dissertation on Newton's principles of mechanics.[5]

THE STRANGE TWINS

On June 22, 1911, George Sarton was married to the lady to whom he had dedicated his first novel. Her full name was Eleanor Mabel

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[2]The article, "The Faith of a Humanist," is reprinted in the second edition of The History of Science and the New Humanism (Cambridge, Mass.: Harvard University Press, 1937; xx and 191 pages). This reprints the Colver Lectures of 1930 and adds the Elihu Root Lecture delivered on December 10, 1935.

[3]Étude d'un phénomène d'autocatalyse négative en système hétérogène, précédée d'une étude théorique sur la catalyse, l'autocatalyse et la catalyse négative (Gand, janvier 1908; 80 pages).

[4]La Chaîne d'or (Edition de la Société Nouvelle, 1909; 78 pages).

[5]Les Principes de la mécanique de Newton (Ghent, May 1911; [illegible]ges).

Elwes. They established themselves in a country home near Ghent, where on May 3, 1912, their daughter, Eleanor May Sarton, was born. She publishes under the shorter name of May Sarton. Her full initials of E.M.S. are indistinguishable from her mother's. The Festschrift of 1946,[6] displayed in the third case, opens with "Biographical Data on George Sarton," signed "E.M.S.," presumably Eleanor Mabel Sarton. It closes with a poem in her father's honor by May Sarton.

In 1912 George Sarton also prepared the first number of Isis, a periodical devoted to the history of science. Though this was not actually published until March of 1913, he sent it to the printer in 1912 and often spoke of 1912 as its birth-year. Much later, in 1931, he dedicated a book as follows: "To my dearest friend, E.M.S., the mother of those strange twins, May and Isis."[7] The dedication appears unchanged in the 1937 edition of the same book. In 1939 May Sarton, by that time an author in her own right, dedicated one of her books with these words: "For George and Mabel Sarton, parents of strange twins."[8] From all of this one may infer that the incommensurate twinship of the daughter May and the periodical Isis was a byword in the Sarton household for many years. In view of the farther's intense devotion to Isis, it has seemed advisable to verify the order of words in that early dedication. It is reassuring to be able to report that he wrote "May and Isis," not "Isis and May."

AN EGYPTIAN TRINITY

Three Egyptian deities, Isis, Osiris, and Horus, have provided names for publications by George Sarton. The first was named for Isis, consort of Osiris and mother of Horus, goddess of fertility, generatrix of the gods and of the world, in whose mysteries the Greco-Romans felt that they received glimpses of the meaning of the universe. In volume 6 of this periodical the editor explains briefly his choice of the name. "I chose it ten years ago," he writes, "because it was short, as I might have chosen Minerva, Athene, Hermes or Clio if those names had not been preempted. The title of a review should be as short as possible, being explained, if necessary, by a sub-title of any length. The name Isis evokes in my mind the period of human civilization which is perhaps the most impressive of all—its beginning."[9]

The name had, in fact, been employed for a number of different periodicals during the course of the 19th century, most of them for persons interested in science. The earliest on record is Isis von Oken, devoted to natural history, comparative anatomy and physiology. Of this some forty volumes were issued from 1817 to 1848. The first number opens with an illustration of the Egyptian goddess Isis, her consort Osiris, and their Child Anubis.[10] In 1832 a suffragist and rationalist weekly called The Isis started publication in London.[11] In 1839, at the University of Oxford, appeared the first number of literary magazine, The Isis, of which Falconer Madan's copy is now at Yale.[12] Germany between 1834 and 1876 produced at least two natural science periodicals named Isis, and three natural science societies named Isis which issued transactions. Of the societies the most famous was that at Dresden, which celebrated its hundredth anniversary in 1934.[13]

The first two volumes of the Sartonian Isis were composed in French, and published by the Saint Catherine Press at Bruges, in Belgium. Pierre Verbeke has kindly supplied a picture of the press, on display in the upright case. Volume 2 was interrupted by the First World War, when the Germans invaded Belgium, commandeered the Sarton home, and temporarily cut off their entire

income. Having buried all their manuscripts in the garden, they fled to Holland in a peasant cart, thence to England, and finally in 1915 to America. After the war, in September 1919, volume 2 of Isis was completed, the printing being still done in Belgium. With volume 3 the language shifts to English. The section called "Chronique et Correspondence"; the section devoted to "Analyses" becomes "Reviews." From volume 6 onward Isis was the official organ of the History of Science Society, which had been founded in 1924, chiefly by the efforts of David Eugene Smith, and George Sarton. In 1940 the Society took over the financial responsibility for Isis, which until then had had its recurring deficits paid by Dr. Sarton himself out of his patrimony.

By that time, however, there was another literary "mouth to feed". Isis had accumulated such a backlog of unpublished material that in 1936 a supplementary serial, designed especially for the publication of long contribution, was founded. For this the mythological husband of Isis supplied the name.[14] Dr. Alexander Pogo served for years as the managing editor of both Isis and Osiris.

This new serial, intended to be an annual, also fell on difficult days. At the end of 1941 the editor wrote in a letter: "Osiris is still in existence but deeply asleep. Two volumes (VIII and IX) were printing in Bruges at the time of the German invasion. I had been planning a volume X to be dedicated to Charles and Dorothea Singer. Before the war I was financing Isis and Osiris with my little patrimony, now almost completely spent (happily—there is nothing left for the Huns to take from me)." But ultimately Osiris was resumed. Volume 10 is out and volume 11 is already announced.

The Egyptian trinity was completed in this present year with the publication of Horus. Of special interest to the Armed Forces Medical Library is Section 20 on "Journals and Serials Concerning the History (and Philosophy) of Science." The notes for these were submitted to Dr. Claudius F. Mayer, Editor of the Index-Catalogue of the Army Medical Library, and Dr. Sarton writes (p. 195):

> "Dr. Mayer was kind enough to revise them. ... As his efforts have doubled the list, it is fair to consider him as co-author. ... On the other hand, his long experience has enable him to discard many items, the title of which suggests that they concern the history of science, but which are nevertheless irrelevant. A list of these discarded items being in itself very instructive has been printed in the appendix at the end of this chapter."[15]

Collected sets of Isis and Osiris fill the lower shelves of the upright case, and the Guide (the name Horus appearing only on the top line of the title-page) is on the shelf above.

BIBLIOGRAPHER AND HISTORIAN

In the early years each number of Isis carried a bibliography of recently published works on the history of science. At first this was called Bibliographie Analytique, later Bibliographie Critique. It is rumored that on some occasions, when the financing of Isis became difficult, the suggestion was offered that the situation could be saved by simply dropping out the Critical Bibliographies. The suggestion was never accepted. Somehow Isis weathered

each storm and the Bibliographies were continued, having attained by now to No. 79. It is estimated that they have averaged nearly a thousand entries each, so that the total is around 75,000.

No. 4 in the series was a special "Bibliographie Synthétique," listing some sixty periodicals and serials -- actually an anticipation of Section 20 of Horus, mentioned above. In its appropriate place this synthesized bibliography listed Isis itself and spoke of its Critical Bibliographies as an especially important feature of the periodical. It added that at the end of that year (1914) the Critical Bibliography would appear in a special edition, printed on one side of the paper only, and called "L'Encyclopédie sur fiches." The obvious intention was to provide a copy which could be readily cut up into separate entries, these to be pasted on cards and filed as a card catalogue. But before the end of 1914 the Sarton family fled out of Belgium before the German invader.

So far as is known, nothing came of the plan for a special edition printed on one side of the paper. The idea of an Encyclopedia on cards, however, has been realized by the more conventional method of cutting up two copies of the necessary issues of Isis. Such a card catalogue exists in the editorial offices of Isis at Harvard University. Another has been compiled by Professor Henry Guerlac at Cornell, in seventy filing trays. Dr. Alexander Pogo is under the impression that still another such set was compiled by one of the learned societies in Moscow, but he has been unable recently to trace down any published reference to it.

As the editor has often pointed out, the Critical Bibliographies in Isis supplement and are supplemented by the three-volumes-in-five of what is commonly referred to as his Introduction.[16] This might almost have been called a bibliography, though it is actually something more, since it is a major effort at classification and periodization, and it also sketches the historical significance of each person mentioned. It carried the subject from Homer down to and through the fourteenth century. "I stopped there because the fifteenth century would have taken me twenty years and I don't expect to live that long," the author cheerfully told a representative of the New Yorker in a recent interview.[17]

In the preface to his latest book he tells of a former student of his at Harvard who was delighted when the Introduction came out, since he expected to find it interesting like the lectures that he had attended. Actually he could not read it, it was so dull. Bibliographies and historical outlines are like that. They are meant to be consulted, not read. To provide something for the intelligent general reader Dr. Sarton is now preparing his Harvard lectures for publication. The first volume, on display in the center of the upright case, is just out,[18] and eight or ten volumes in all are expected. It is the culmination of a career.

PROPAGANDIST FOR THE HISTORY OF SCIENCE

Ever since 1912 George Sarton has been a propagandist, in the good meaning of the word; and in a journalistic way of speaking this is doubtless the most colorful and popular aspect of his work. It began with the leading article in the first issue of Isis, where he outlined an ideal program for the development of his chosen discipline. The idea of the history of science as a separate discipline he traced back to the positivist philosopher Comte, who had used, however, the less concise term "histoire générale des sciences." Sarton speaks of "l'histoire de la science." No collection of separate histories of the particular sciences can have the same effect as a history of science as a whole, arranged not by countries nor by disciplines but by epochs. Through its influence the evils of overspecialization among scientists may be expected to be lessened. Science itself is declared to be the most precious inheritance of the race, the great peace-maker among nations, the most powerful factor in human progress. In art, on the contrary, no particular progress can be noted from age to age.[19]

Advance information regarding Isis had been communicated to Ciel et Terre, organ of the Belgian Society of Astronomy, which in a cordially worded notice remarked that the enterprise was "that of a person brave and young to whom all aspirations and all enthusiasms are permissible."[20] The wording is priceless and the observation just.

In a succession of articles and special lectures this brave young man reiterated and amplified his program. In reviewing recent additions to the Ostwald series of Classics of the Exact Sciences he insists on the utility of historical investigations, as opposed to their merely curious interest; by repeatedly confronting older science with modern science the historian often retrieves elements of real use from theories that are supposedly exploded.[21] In an appreciation of the recently deceased Henri Poincaré, he remarks that in January of 1912 he communicated to two men, Poincaré and Wilhelm Ostwald, his "audacious project of founding a journal devoted to the history of science," and Poincaré's response was so prompt and so cordial that he ought almost to be regarded as a co-founder of Isis.[22]

In The Monist for July of 1916 the leading article is largely a translation, slightly popularized for American readers, of the original Sartonian program in volume 1 of Isis. In an appendix is added, however, a plea for an institute for the history of science. The writer hoped that "one of the great American universities will take upon itself this initiative, and organize an institute where all the information on the history of science can be centralized, studied and diffused again." And he adds: "Will America give this great example to the world? I earnestly hope so."[23]

The idea was further aired in the columns of Science for 1917. A list of almost a hundred scholars is given with whom Dr. Sarton has been in correspondence on the subject, all of whom have expressed interest in an institute and most of whom have promised some kind of collaboration. This article may be noteworthy for the first clear enunciation of the belief that "the evolution of science must be the leading thread in all general history."[24] As for an institute of the history of science, none has come into being, but in 1952 the arguments for it were reiterated in Horus (p.261).

"The Teaching of the History of Science" has been the title of at least three essays. The first was the leading article in the Scientific Monthly for

September 1918. This calls openly for "an educational revolution... that... will oblige history to move its center of gravity" and focus its attention "on what is most permanent, progressive, and specifically human in the development of the race," i.e., on science. Three classes of people, the literary folk, the historians of the traditional type, and the philosophers, are here recognized as natural opponents of this educational revolution, which promises to take a long time.[25]

The battle is well joined, and an article on "Secret History" carries it on. The traditional histories, it is said, are "nothing but a superior kind of gossip," dealing with kings, rich men, wars, and calamities, whereas the intellectual progress of mankind is quiet, unobtrusive, and often overlooked. It is added that attainment of wealth and economic power are not so much an achievement as a stewardship, the chief purpose of which ought to be to enable scientists and artists to do their work and so accomplish the destiny of mankind.[26]

The second essay on "The Teaching of the History of Science" offers some suggestions on the choice of college presidents, in particular American college presidents. They used to be theologians and more recently have been business men, but what now is really needed is men of encyclopedic, or at least of scientific, education. It is noted that the professorial chair at the Collège de France is the only one in the world today that is devoted to the history of science.[27]

Thus the campaign went on, with a sweep and an intensity barely hinted at in the foregoing excerpts. "Nothing irritates me more," wrote the protagonist in 1921, "than to be told that an essay of mine is 'well written.' ...I do not try to 'write well.' I often feel that I have something to say, but I keep silent as long as I can, or I speak of the weather and the crops and the family. But the thought accumulates in me, until sooner or later the pressure becomes so great that I must speak out. And then I try to say what I have on my mind as clearly and simply yet as forcibly as possible. ...If one does not write with one's own blood, what is the use of writing at all?"[28]

In the light of such a passage perhaps some special significance may be seen in the sketches of intellectual geniuses which George Sarton wrote in these earlier years. There is little doubt that he felt a sort of spiritual kinship with them. Of Galois he spoke with particular sympathy: "No episode in the history of thought is more moving than the life of Évariste Galois--the young Frenchman who passed like a meteor about 1828, devoted a few feverish years to the most intense meditation, and died...at the age of twenty. He was still a mere boy, yet within those short years he had accomplished enough to prove indubitably that he was one of the greatest mathematicians of all times. ...Thus it is that many of the greatest accomplishments of science, art and letters were conceived by very young men." And a quotation is added from Alfred de Vigny: "What is a great life? It is a thought of youth wrought out in ripening years."[29]

There is no such poignant tragedy as that of Galois in the life of Herbert Spencer, and yet here is a man who, after a number of years of hard thinking, formulated his life's program, proclaimed it to the world, and devoted his remaining days to its fulfilment.[30] Consider also Renan, whose first book, <u>The Future of Science</u>, was dogmatic and naive, crude and aggressive, and yet contained the germs of the best thoughts of his maturity. It insisted, in particular, that philosophy should be based on positive knowledge.[31]

Into the Sarton campaign speeches, if without offense they may be so called, certain new notes begin to creep during the middle years. In 1929, for example, the Bourdon Lecture praises John Addington Symonds quite generously "in spite of the fact that he was primarily a man of letters."[32] In the Colver Lectures of 1930 it is admitted that some of the lecturer's early pronouncements may have had a touch of dogmatism, and while he still insists that in the development of human history knowledge alone is truly progressive, the point is added in fairness, even though it may seem to weaken the argument, that some elements of progress do exist in non-scientific fields.[33] And the Elihu Root Lecture stresses a point that seems strange in a life so filled with daemonic energy. It insists on the need in every life for a time of quiet study and meditation each day.[34]

As in any soundly based campaign, however, though there are shifts in strategy and emphasis, the fundamental principles continue unchanged. Two small volumes published in 1936 reiterate that the history of science is the only history which can illustrate the progress of mankind; also that in the history of science it is the development of mathematics that is of central importance.[35] In 1948, when the best of the argumentative papers and addresses were assembled in an important volume entitled The Life of Science, a new essay was added on "The Spread of Understanding," advising the reader of the need to show forbearance and charity toward those unfortunates who are unscientific.[37] And in 1950 the Keiser Foundation Lecture spoke of the history of science as the nucleus of every history of human events.[38]

The propagandist for the history of science has not ceased his work. Horus, published in 1952, opens with a brilliant synthesis of all his main arguments. "These arguments," he adds, "are plausible and convincing, but I am not naïve enough to believe that their power of conviction is transferable to other people. They convince me, because I know science and love it."[39] This raises one of the most interesting questions that can be asked regarding this whole apparatus of propaganda. George Sarton has argued most persuasively, and though he calls himself a very poor propagandist because he always gives every reason that he can see against as well as for a question, you are not to believe his disclaimer. He is, for the long pull, a very good propagandist for this very reason -- like the diplomat who outwitted all his fellow diplomats by simply telling the truth. But the most interesting question about the whole matter is whether these careful arguments are what led him himself to devote his life to this cause. It may be doubted that they were. Emotional elements and instinctive choices probably preceded the argumentation. He came close to asserting this on October 16 in an interview with a representative of the New Yorker. He had lectured on "Leonardo da Vinci, Innovator and Man of Learning," and afterwards he told the reporter: "My enthusiasm for Leonardo prompted me to devote my life to the history of science. To understand him you must know the whole thought of the Middle Ages."[40]

As Gregoire said in his brilliant appreciation of the man in 1942, "he often speaks, without any bitterness of course, of his 'great failure.' He has the impression, which he often expresses, that his beloved discipline has not yet completely asserted itself."[41] Obviously true. Yet against this must be set a great personal triumph in the production of a mass of learning that is, as the current phrase goes, fantastic. With this have come some of the frills, as he himself calls them. He received the coveted Prix Binoux years ago. More recently he has had a publication issued by the Book-of-the-

Month Club. He has written for the Saturday Review. He has lectured at the Metropolitan Museum and the Morgan Library. He has been interviewed by the New Yorker -- and the result as published is one of the best brief summaries of his career ever printed. But no one need worry. Anyone who knows George Sarton knows that he can meet success and failure and treat those two impostors just the same.

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7. The History of Science and the New Humanism (New York: Henry Holt, 1931). This contains the Colver Lectures of 1930.

8. May Sarton, The Single Found (Boston: Houghton Mifflin, [1939]; 241 pages).

9. Isis, vol. 6 (1924), p. 39.

10. Isis von Oken, oder Encyclopädische Zeitschrift für Naturgeschichte, vergleichende Anatomie und Physiologie (Jena, later Leipzig, 1817-1848; 41 vols.)

11. The Isis, a London Weekly Publication, edited by the Lady of the Rotunda [E. S. Carlile] (London: David France, Feb. 11, 1832-).

12. The Isis (title-page missing; Jan. 1839).

13. Naturwissenschaftliche Gesellschaft Isis, Sitzungsberichte und Abhandlungen (Dresden, 1862-). An association at Meissen with similar name celebrated its fiftieth anniversary in 1895, and one at Bautzen its fiftieth anniversary in 1896.

14. Osiris: Studies on the History and Philosophy of Science, and on the History of Learning and Culture, edited by George Sarton with the help of Alexander Pogo (Bruges: Imprimerie Sainte-Catherine, 1936-).

15. Horus, a Guide to the History of Science (Waltham, Mass.: Chronica Botanica Company, 1952; xvii and 316 pages), p. 195.

16. Introduction to the History of Science (Baltimore: Williams and Wilkins; vol. 1, 1927; vol. 2, in 2 parts, 1931; and vol. 3, in 2 parts, 1947-1948). This is Publication No. 376 of the Carnegie Institution of Washington, which has financed the undertaking since 1918 and which maintained Dr. Sarton on its staff as Research Associate to August 31, 1949.

17. The New Yorker, vol. 28, no. 41 (Nov. 29, 1952), p. 32.

18. A History of Science; Ancient Science through the Golden Age of Greece (Cambridge, Massachusetts: Harvard University Press, 1952; 646 pages).

19. "L'Histoire de la science," Isis, vol. 1 (1913), pp.3-46.

20. Notice signed E. L., in Ciel et Terre, vol. 34 (Bruxelles: Société Belge d'Astronomie, 1913), p.77: "... d'un courageux et d'un jeune à qui toutes les aspirations et toutes les ardeurs sont permises."

21. Revue Générale des Sciences, vol. 23 (1912), p. 217.

22. Isis, vol. 1 (1913), p. 96.

23. The Monist, vol. 26 (1916), p. 364.

24. "An Institute for the History of Science," Science, vol. 45, no. 1190 (March 23, 1917), pp. 284-286. See also "An Institute for the History of Science and Civilization," ibid., vol. 46, no. 1191 (Oct. 26, 1917), pp. 399-402.

25. Scientific Monthly, vol. 7 (1918), pp.193-211.

26. "Secret History," Scribner's Magazine, vol. 67 (Feb. 1920), pp. 187-192.

27. Isis, vol. 4 (1921), pp. 225-249, especially 247.

28. "Science and Style," Scribner's Magazine, vol. 69, no. 6 (June 1921), pp.755-759; reprinted in Essays toward Truth, selected by K. A. Robinson and others (New York: Henry Holt, 1924), pp.324-335, especially last page.

29. "Évariste Galois," Scientific Monthly, vol. 10 (Oct. 1921), pp.363-375, especially 363 and 374; reprinted in Osiris, vol. 3 (1937), pp. 241-259.

30. "Herbert Spencer, 1820-1920," Scribner's Magazine, vol. 67, no.6 (June 1920), pp.695-701, especially 697; reprinted in Isis, vol. 3 (1920-21), pp. 375-390.

31. "Ernest Renan," The Nineteenth Century and After, vol. 92 (1922), pp. 953-961; reprinted, with additions, in The Life of Science (see below).

32. "Science in the Renaissance," in The Civilization of the Renaissance, by J. W. Thompson and others (Chicago: University of Chicago Press, 1929), pp. 75-95. This was one of the Mary Tuttle Bourdon Lectures, Mount Holyoke College, 1928-1929.

33. The History of Science and the New Humanism (New York: Henry Holt, 1931; 178 pages), pp. 30-31. This contains the Colver Lectures delivered at Brown University in 1930.

34. The History of Science and the Problems of Today (Washington: Carnegie Institution of Washington, Supplementary Publication No. 20, 1936; 30 pages), p. 23. This publication contains the Elihu Root Lecture delivered at the Carnegie Institution on Dec. 10, 1935.

35. The Study of the History of Science (Cambridge, Mass.: Harvard University Press, 1936; 75 pages), p. 5; The Study of the History of Mathematics (Cambridge, Mass.: Harvard University Press, 1936; 112 pages), p.4.

36. "The History of Medicine versus the History of Art," Bulletin of the History of Medicine, vol. 10 (1941), pp.123-135. This is the Fielding H. Garrison Lecture read before the American Association of the History of Medicine in May of 1941.

37. The Life of Science; Essays in the History of Civilization (New York: Henry Schuman, 1948; vii and 197 pages), p.14. This volume reprints "The History of Science," 1916; "The Message of Leonardo," 1919; "Herbert Spencer," 1920; "Évariste Galois," 1921; "The Teaching of the History of Science," 1921-22, with part of "The New Humanism," 1924; "Ernest Renan," 1922; "East and West," second of the Colver Lectures, 1930; and "The History of Medicine versus the History of Art," 1941. The Life of Science has been made into a talking book, on 13 records, by the U. S. Government Service for the Blind. One record is displayed as a sample in the upright case. There are also Spanish and Japanese translations.

38. The Incubation of Western Culture in the Middle East (Washington, D.C., 1951; 45 pages), p. 10. This contains the George C. Keiser Foundation Lecture delivered at the Library of Congress on March 29, 1950.

39. Horus (see above), p. 14.

40. The New Yorker, vol. 28, no. 41 (Nov. 29, 1952), p. 32. As early as 1916, at the Lowell Institute in Boston, Dr. Sarton delivered a course of lectures (unpublished) on Leonardo, of which an announcement is on display in the middle case. In 1919 he published "The Message of Leonardo; his relation to the Birth of Modern Science," Scribner's Magazine, vol. 65 (May 1919), pp. 531-540. Note also The Metropolitan Museum of Art Miniatures; Leonardo da Vinci (New York: Book-of-the-Month Club, 1952; 32 pages, with 24 colored reproductions laid in). The text presents a shortened version of the lecture delivered at the Museum in January of 1952, on "The Quest for Truth," to be published in full later.

41. Henri Grégoire, "George Sarton, the Scientist and Scholar, the Historian of Science and the Father of 'Isis' and 'Osiris'," in Belgium, vol. 3 (Sept. 1942), pp. 352-355.